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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,069	09/19/2003	Neil Gilmartin	030206 (BLL-0109)	7662
7590 Philmore H. Colburn II Cantor Colburn LLP 55 Griffin Road South Bloomfield, CT 06002		02/15/2008	EXAMINER RECEK, JASON D	
			ART UNIT 2142	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/666,069

Applicant(s)

GILMARTIN, NEIL

Examiner

Jason Recek

Art Unit

2142

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 7 November 2007.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

This is in response to the amendment filed on December 7<sup>th</sup> 2007 which concerns application 10/666,069.

### ***Status of Claims***

Claims 1-23 are pending.

Claims 1-23 are rejected under 35 U.S.C. 103(a).

Claim 1 is objected to.

Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph.

### ***Information Disclosure Statement***

1. The information disclosure statement (IDS) submitted on November 7<sup>th</sup> 2007 was filed after the mailing date of the first Office Action on June 7<sup>th</sup> 2007. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Response to Arguments***

1. Applicant's arguments and amendments, see pgs. 9-14, filed December 7<sup>th</sup> 2007, with respect to the claim objections, 35 U.S.C. 112 second paragraph rejections and the

rejection under 35 U.S.C. 101 have been fully considered and are persuasive. The objections and 112 and 101 rejections have been withdrawn. However, in response to the amendments made to overcome the 101 rejections, the specification is now objected to, see below.

2. Applicant's arguments with respect to the 35 U.S.C. 103(a) rejections have been fully considered but they are not persuasive.

Applicant argues that IEEE standard 802.1q is silent as to "receiving...a class of service". This argument is not persuasive. IEEE discloses using priority indicators which are capable of defining a class of service (pg. iv sections (a) and (b), Definitions 3.3, 3.8, 3.12, 3.13, Table 5.1, Sections 6.5 and 7.1.2.1).

Applicant argues that "examiner must cite the best references ... [and] the particular part relied on must be designated", however 37 CFR 1.104(c)(2) only requires the latter when the reference is complex or shows or describes inventions other than that claimed by the applicant. The omission of the citation to the particular part relied upon was merely an oversight. The Office Action clearly recites the subject matter that is relied upon (pg. 7 – priority indicator) and thus it would have been possible to determine which parts of the reference was relied upon since the reference discusses the subject matter throughout.

Applicant also argues that the rejection of claim 1 is an improper omnibus rejection. The basis for this assertion is not clear since applicant does not provide any detailed reasons for this assertion other than citing the MPEP section against omnibus rejections. Therefore, this argument is not persuasive.

Applicant argues that Avargues is non-analogous art and fails to teach or suggest the recitations missing from Dobbins (800) and IEEE 802. This argument is not persuasive. Avargues is directed towards a method for performing least cost routing (title). Applicant's invention also concerns data routing, thus they are in the same field of endeavor. Furthermore, the classification of Avargues cross references class 709/241, Least Weight Routing. Applicant's invention is classified in 709/244, Centralized controlling. Both of these subclass are grouped under the broader subclass 709/238 Computer-to-Computer Data Routing. For at least the above reasons Avargues is analogous art.

Applicant's arguments regarding claims 4-15 and 18 simply repeat the above argument that Dobbins (800) and IEEE 802.1q do not recite all the limitations of claim 1. These arguments are not persuasive. Dobbins and IEEE 802.1q disclose all the limitations of claim 1 as discussed above and in the rejection below. Therefore the argument that a third reference (i.e., Gonda) does not disclose all the limitations of claim 1 is moot.

Applicants demand the Examiner produce authority for the statement "least cost paths are well known in the art". Examiner offers that the disclosure by Avargues (6,104,701) of least cost paths as cited in the Office Action should suffice that least cost paths are well known in the art. If applicant is not sufficiently satisfied, examiner cites "Computer Networking, A Top-Down Approach Featuring the Internet", published in 2001 as further authority for this statement, see the rejection of claims 14 and 15 below and the attached references.

### ***Specification***

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the specification does not provide clear antecedent basis for the term "computer-readable medium" as recited by claim 23.

### ***Claim Objections***

4. Claim 1 is objected to because of the following informalities: the letter "n" is not a word. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
7. Claim 1 recites the limitation "said new access port" in line eighteen. There is insufficient antecedent basis for this limitation in the claim.
8. Claims 2-18 depend from a rejected claim, therefore they are also rejected.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 16-17 and 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dobbins U.S. Pat. No. 5,684,800 in view of IEEE Standard 802.1q.

Regarding claim 1, Dobbins (800) discloses "receiving a VLAN name, [...] and two or more access ports" as a VLAN/Access Port table (see column 3, lines 4-5).

Dobbins (800) also discloses "determining switches and trunks associated with said

access ports” as a switched network and a protocol for discovering switches (see column 2, line 59 and column 4, lines 41-43). Dobbins (800) also discloses “searching a VLAN database for said VLAN” as a directory that contains VLAN-IDs and is capable of returning a list of IDs (see column 7, lines 7-11). Dobbins (800) further discloses “creating a VLAN if said searching does not result in locating said VLAN, wherein said creating includes: selecting a starting access port from said two or more access ports; mapping a base path from said starting access port to another of said access ports, wherein said base path includes one or more of said switches and one or more of said trunks” as a call processor that allows a system to update its mappings when a source-destination pair is not found in the connection database (see column 5, lines 6-27 and fig. 5). Dobbins (800) also discloses “adding said base path to said VLAN including said starting access port and said another of said access ports” as a system that generally discovers and assigns VLANs by mapping end user systems and storing these in a database (see column 6, lines 3-12). Dobbins (800) discloses “mapping a new path from said access port to one of said switches in said VLAN” as a process where a switch determines the path of switches and links to traverse and explicitly maps a connection for the source-destination (see column 4, lines 37-38). Dobbins (800) also discloses “adding said new path to said VLAN including said access port; and transmitting said VLAN to said VLAN database” as a system that updates a VLAN table (see columns 2-3, lines 65-5), “adding said new access port to an existing VLAN” as mapping access ports to VLAN-IDs (col. 3 ln. 3-4), “determining a list of shortest paths with capacity” and “adding said new access port to the existing VLAN, if there is at least



one physical path" as a discovery agent that maps ports (col. 4 ln. 37-40), the agent will not be able to map if there is not at least one physical path.

Dobbins (800) does not disclose "receiving [...] a class of service" however this is taught by the IEEE standard 802.1q as a priority indicator (Definitions 3.12-3.13, Section 6.5). It would have been obvious to one of ordinary skill in the art to modify Dobbins (800) with the priority field taught by the IEEE standard 802.1q. The motivation is to comply with international standards.

Regarding claim 16, Dobbins (800) further discloses "receiving a hub switch and wherein each said one or more access ports are mapped to said hub switch" as a switched network where VLANs are established, such switches having access ports connected to end systems (see column 2, lines 59-62). The term "hub switch" is interpreted as 'ethernet switch' to avoid confusion arising from the fact that a hub and a switch are different devices, thus "hub switch" is disclosed by Dobbins' teaching of a 'switch'.

Regarding claim 17, the invention of Dobbins would necessarily include "wherein said trunks associated with said access ports include a relative cost value" due to the way a switched network operates. When the network is being discovered the link state packets sent out will include 'costs' to each neighbor in the network, thus each line or trunk will include a relative cost value.

Regarding claim 19, Dobbins also discloses "a system for facilitating the design and assignment of Ethernet VLANs, the system comprising: a network of switches and connecting trunks" (see figs. 1,5) "a storage device in communication with said network, wherein said storage device includes a VLAN database" (see fig. 3, item 82) "a user system in communication with said network" (see fig. 5, items 20A-20L) "and a host system in communication with said network, wherein said host system contains a computer readable storage medium ... comprising: [the method of claim 1]" the host system is shown as a host agent (fig. 3, item 85) and software is also shown (fig. 3, items 87-89, also see column 4, lines 66-67).

Regarding claim 20, Dobbins (800) discloses "wherein said network is the Internet" as a system of networks and LANs that are globally connected to the Internet (see column 1, line 32).

Regarding claim 21, Dobbins (800) discloses "wherein said network is an intranet" as a switched network (see fig. 5).

Regarding claim 22, Dobbins (800) discloses "wherein said VLAN database is a relational database" as a connection database that has tables (see fig. 3, item 82, and figs. 6-7, and column 7, lines 1-30).

Regarding claim 23, Dobbins (800) discloses "a computer-readable medium having computer-executable instructions for facilitating design and assignment of Ethernet VLANs, ... comprising [the method of claim 1]" because the system and method of Dobbins (800) is designed to be run on a computer system which necessarily consists of computer readable media and a processor (see column 4, lines 21-23).

3. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dobbins (800) in view of IEEE 802.1q and further in view of Avargues et al. U.S. Pat. No. 6,104,701.

Dobbins (800) and IEEE 802.1q do not disclose "selecting a pre-selected number of said two or more access ports" however Avargues discloses this as a necessary step when determining a least cost routing path between end users, the users being equivalent to access ports (see abstract) and discloses "creating a list of least cost paths from said starting access port to each of said selected access ports, wherein each said path includes one or more of said switches and one or more of said trunks" as broadcasting a query to determine paths to end node and monitoring answers to check

for the best match (see column 4, lines 8-15). Finally, Avargues also discloses "selecting a longest length path from said list for said base path" as setting the network entry by choosing the longest prefix match between the two nodes (see column 4, lines 15-18).

It would have been obvious to one of ordinary skill in the art to modify the call processor of Dobbins (800) that maps paths to use the path selection process described in Avargues. The motivation to combine is simply to provide the best match when adding a link that is not already in the network or VLAN.

Regarding claim 3, the further limitation "wherein said pre-selected number is four" is in practice repeating the function of claim 2. Claim 2 discloses selecting at least 2 ports, in order to map a path *between* something you must have a beginning and an end. By choosing 4 locations, or ports, claim 3 is performing two iterations of the method described by claim 2, therefore claim 3 is rejected.

4. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dobbins (800) in view of IEEE 802.1q and in view of Avargues and in further view of Gonda US2003/0067928 A1.

Neither Dobbins (800), IEEE 802.1q nor Avargues disclose "wherein each said two or more access ports includes a corresponding bandwidth requirement and said mapping a base path further includes: determining if each said least cost path in said list

has capacity for said bandwidth requirement corresponding to said another of said access ports;" however Gonda discloses this as a system for establishing Ethernet circuits, where circuits have a bandwidth requirement attribute and ports may be mapped similar to a VLAN (see paragraphs 53 and 62). Also the limitation "deleting a least cost path from said list in response to said least cost path not having capacity" would inherently be present in a system that required a path to meet a bandwidth requirement, if capacity was not present, the path would not be selected.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the bandwidth requirement of Gonda with the inventions of Dobbins and Avargues. Motivation is establishing a minimal level of service.

Regarding claim 5, by disclosing a bandwidth requirement Gonda's invention also necessitates the need for path bandwidth capacity information to be provided from some sort of management system, thus "determining includes receiving capacity data from an operational support system" would have been inherent in Gonda's invention.

Regarding claims 6-7, see objection that they are a substantial duplicate of claims 4-5, since there no are distinguishing features, claims 6-7 are rejected under the same rationale.

5. Claims 8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dobbins (800) in view of Dobbins U.S. Pat. No. 5,825,772.

Dobbins (800) does not disclose "creating a list of one or more least cost paths from said access port to one of said switches located in said VLAN" however Dobbins (772) teaches this as connection mapping using a path determination algorithm (see column 13, lines 50-51). Dobbins (772) also discloses "selecting the shortest length path from said list for said new path, wherein if there is more than one shortest length path then selecting the one resulting in a lowest total hub value for the VLAN for said new path" as selecting a shortest path based on summation of link cost (see column 13, lines 52-54).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Dobbins (800) with the shortest path selection algorithm from Dobbins (772). The motivation to combine is to choose efficient paths between access ports.

Regarding claim 11, Dobbins (772) also discloses "calculating a total bandwidth transport required by said list of least cost paths, wherein said total bandwidth transport required is said total hub value" as choosing a path based upon metrics, such as link cost (see column 13, lines 52-54). Link costs may include many factors, one of which is bandwidth, thus choosing based on hub value, which is calculated using bandwidth is another way of choosing a path based on link cost.

6. Claims 9-10, and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dobbins (800) in view of Dobbins (772) and in further view of Gonda.

Dobbins (800) and Dobbins (772) do not disclose "wherein each said two or more access ports includes a corresponding bandwidth requirement and said mapping a new path further includes: determining if each said least cost path in said list has capacity for said bandwidth requirement corresponding to said access port;" however Gonda discloses this as a system for establishing Ethernet circuits, where circuits have a bandwidth requirement attribute and ports may be mapped similar to a VLAN (see paragraphs 53 and 62). Also the limitation "deleting a least cost path from said list in response to said least cost path not having capacity" would inherently be present in a system that required a path to meet a bandwidth requirement, if capacity was not present, the path would not be selected.

Regarding claim 10, the same reasoning used in the rejection of claim 5 is applied since claim 10 adds the same limitation as claim 5. The motivation to modify Dobbins (800) with Gonda has already been presented and the same motivation applies to the instant claims, see rejection of claims 4-5.

Regarding claims 12-13, see objection that they are a substantial duplicate of claims 9-10, since there no are distinguishing features, claims 12-13 are rejected under the same rationale.

7. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dobbins (800) in view of Avargues.

Dobbins (800) does not disclose using least cost paths, however Avargues teaches "wherein said [base/new] path is a least cost path" as a system for determining the best path by using a least cost path (see abstract). Least cost paths are well known in the art (as evidenced by Avargues and "Computer Networking, A Top-Down Approach Featuring the Internet", 2001) and it would have been obvious to one of ordinary skill in the art to modify Dobbins (800) with the least cost path taught by Avargues. Avargues suggests doing so for the purpose of minimizing communication costs (col. 3 ln. 20-25).

8. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dobbins (800) as applied to claim 1 above, and further in view of Zabihi et al. US2004/0042454 A1.

Dobbins (800) discloses a "VLAN database includes a VLAN name field, [...] VLAN switch fields and VLAN access port fields for each said VLAN" as a table which matches VLAN-IDs with access ports and is kept by a specific switch, or as a directory that maps VLANs to switches and ultimately end systems (see column 7, lines 7-15 and figs. 6-7). Dobbins (800) does not disclose a database containing "VLAN trunk fields"



however Zabihi teaches this as a network management database in a VLAN environment that associates trunk links with VLANs (see Fig. 3 and paragraph 63 in the detailed description).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the switch tables from Dobbins (800) with the more complete database taught by Zabihi. The motivation is to reduce overhead associated with developing and maintaining VLANs. A more comprehensive database will save a technician time by not having to manually select trunk lines.

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

De Silva et al. US 2004/0081180 A1 discloses a method for mapping VLANs.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Recek whose telephone number is (571) 270-1975. The examiner can normally be reached on Mon - Thurs 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571) 272-3868. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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